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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/118,572	07/17/1998	KARL J. WOOD	PHB34169US	9151

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EXAMINER

YANG, RYAN R

ART UNIT	PAPER NUMBER
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2672

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/118,572	Applicant(s) WOOD ET AL.	
	Examiner Ryan R. Yang	Art Unit 2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7 and 9 is/are rejected.
- 7) ☒ Claim(s) 6, 8, 10, 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-11 are pending in this application. Claim 1 is independent claims. In the amendment filed 9/29/2005, no claim is amended.
2. This application claims foreign priority dated 7/17/1997.
3. The present title of the invention is "Graphic image texture generation" as filed originally.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1-5, 7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Rhoades et al. ("Real-time procedural textures", June 1992, Proceedings of the 1992 symposium in interactive 3D graphics, page 95-100).

As per claim 1, Rhodes et al., hereinafter Rhodes, disclose an apparatus for texture mapping in a computer graphics system (as illustrated in Figure 1), using a predetermined set of standardized textures ("Procedural textures are implemented via a simple virtual machine. This texture machine comprises an assembly language-like instruction set called T-codes, a set of registers in pixel memory", page 96, 2nd column, line 12-14), the apparatus having an input (since the system is interactive, the processor is inherently having an input in order to receive commands) to receive via a network identifying data identifying one of the set of standardized textures ("Graphics Processors, Renderers, Frame Buffers, and workstation host communicate over a

shared 640 Mb/sec ring network", page 96, 15th column, line 20-22; thus, the system forms a network), and

means for processing the data to generate output texels of the identified textures (Figure 1, the Graphics Processor and Renderer process the data), wherein each texture of the standardized set is a procedural texture (where the T-codes are the procedural texture), the identifying data comprises one or a sequence of program commands, the execution of which will result in the generation of a respective procedural texture, with the means for processing data comprising a processor operable to implement all such input program commands or sequences of input program commands as required to generate the procedural texture of the standardized set (Figure 1, the IGC commands is the instruction streams for the Renderers to rasterize the polygons).

6. As per claim 2, Rhoades demonstrated all the elements as applied to the rejection of independent claim 1, *supra*, and further discloses having at least one further input for one or more predetermined classes of numerical parameter, with the processor being arranged to generate procedural textures with reference to the or each numerical parameter value received ("This texture machine comprises an assembly language-like instruction set called T-codes, a set of registers in pixel memory, and a set of parameters in the Graphics Processor Memory", page 96, 2nd column, line 13-16, and "the user can explore the parameter space of a procedure continuously in real time", page 98, column 1, line 21-23; thus, the parameters can be changes from input commands).

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7. As per claim 3, Rhodes demonstrated all the elements as applied to the rejection of independent claim 1, supra, and further discloses having at least one further input for a scale factor, with the processor being arranged to generate a procedural texture at a resolution determined by a received scale factor ("Examples of operators include add, scale, max, square root, spline, and color lookup", page 96, 2nd column, line 31-32; the parameters are accessible by input commands and scale is listed as one of the parameters).

8. As per claim 4, Rhodes demonstrated all the elements as applied to the rejection of independent claim 1, supra, and further discloses the processor is operable to implement only such input program commands or sequences of input program commands as required to generate those procedural textures of the standardized set ("The texture editor displays the T-code instructions of a selected procedural texture in a text window. The user can position a movable cursor on any literal value in a T-code instruction, and smoothly vary this value via a joystick", page 98, 1st column, line 14-17; since the texture editor can only select procedure textures, it can implement only such input program commands or sequences of input program commands as required to generate those procedural textures of the standardized set.)

9. As per claim 5, Rhoades demonstrated all the elements as applied to the rejection of independent claim 1, supra, and further discloses a cache memory coupled with the processor, with the processor being configured to generate said procedural textures as texture maps within said cache (The Graphics Processor cache the IGC

commands resulting from texture interpretation to avoid generating them repeatedly, page 97, 1st column, line 33-35).

10. As per claim 7, Rhoades demonstrated all the elements as applied to the rejection of dependent claim 4, supra, and as for fabricating the apparatus into a single substrate, it is notoriously known in the art (Officially Notice) that a processor of many elements can be fabricated onto a single substrate for the purposes of increasing processing speed and reducing power and cost. See in re Larson, 340 F.2d 965, 144 USPQ 347 (CCPA 1965)

11. As per claim 9, Rhoades demonstrated all the elements as applied to the rejection of independent claim 1, supra, and further discloses a source of three-dimensional polygon data (Figure 1, the Polygon Data in the Graphics Processor), a geometry processor coupled to receive said polygon data and arranged to generate a two-dimensional representation of said polygons (Figure 1, the Graphics Processor), a source of program commands coupled to the input of the texture mapping apparatus and specifying textures to be applied to respective ones of said polygons (Figure 1, the IGC Commands), and rendering means coupled to receive the outputs of the geometry processor and texture mapping apparatus and arranged to generate an output image of said polygons with texture applied (Figure 1, the Renderer).

Allowable Subject Matter

12. Claims 6, 8 and 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

As per claim 6, the closest prior art by Rhoades et al. do not explicitly disclose "an input to receive a scale factor, and an interpolator to generate output texels from texture map entries in the cache at a resolution determined by the received scaled factor".

As per claim 10, the closest prior art by Rhoades et al. do not explicitly disclose the limitations as claimed.

Response to Arguments

13. Applicant's arguments filed 9/28/2005 have been fully considered but they are not persuasive.

Applicant alleges the IGC commands are generated within the Rhoades texture editor itself (as the Graphics Processor is part of the Rhoades texture editor itself). In reply, Examiner considers the texture editor is a network formed of Graphics Processors, Renderers, Frame Buffers and workstation (page 96, page 96, 1st column, lines 20-22), therefore, the commands are send through a network, as claimed.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquiries

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan R Yang whose telephone number is (571) 272-7666. The examiner can normally be reached on M-F 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ryan Yang

Primary Examiner
December 12, 2005